

## Private Wells and Potential Contaminants

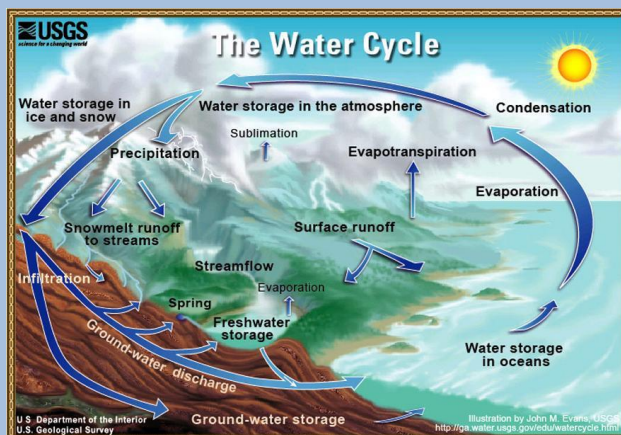


Fond du Lac County

Land & Water Conservation  
Department

## The Water Cycle

Rain, melting snow, and other surface water soaks into the ground and is filtered through a natural process to become ground water. This process is part of the natural water cycle.



Activities on the landscape impact our surface and ground water quality. As water slowly trickles down through the many layers of soil, sand, & gravel, it is purified. Through this process however, it can also pick up natural and unnatural contaminants. If the levels of contaminants gets too high, water can become unsafe to drink.

As the demand on our land & water resources increases, so does the potential for ground water contamination. Once ground water is contaminated, it is difficult, if not impossible, to purify. If the water can be purified, it is often very expensive.

To learn more about the water cycle and to view the water cycle in more detail go to

<http://ga.water.usgs.gov/edu/watercycle.html>

## Testing Your Well

*Because many forms of groundwater contamination are odorless, colorless, and tasteless, it is hard to detect potential contamination in wells. Private well owners should test their wells regularly (at least annually) for bacteria. Don't risk it. If you do not test your water regularly, you will not know if a contaminant has been present in your drinking water.*

*Private well owners should use a certified lab to test their drinking water. When you contact the laboratory, ask them if they are certified for the kind of test you want conducted.*

*Be sure to follow sampling instructions closely. Sampling instructions may be different depending on what will be analyzed.*

*The Fond du Lac County Health Department operates a State Certified Lab for bacterial analysis. For more information about water testing contact the Fond du Lac County Health Department (920) 929-3085 or 1-800-547-3640.*



## Forms of Drinking Water Contamination

### **Bacterial Contamination**

*Coliform bacteria is an indicator of bacterial contamination in wells. Most strains of bacteria are filtered out of water as it passes through the many layers of soil, sand, & gravel. However, some strains of bacteria can survive this natural filtration and end up in ground water. Course soils, fractured bedrock, sink holes, and quarries also allow this bacteria to move more freely down into ground water. Old or improperly installed wells can allow insects and rodents to carry bacteria into wells.*

*While most forms of coliform bacteria are not harmful to healthy people, they do indicate an increased risk of other more serious bacterial contamination of a well.*

*More serious bacterial contamination is fecal coliform bacteria. Bacteria such as E. coli (Escherichia coli) inhabit the intestines of warm blooded animals and are found in fecal matter. The presence of this bacteria indicates a serious health threat and consumption of this water should cease immediately and owners should contact a reputable Licensed Well Driller or Pump Installer to discuss possible options.*

### **Nitrates in Groundwater**

*Nitrate (NO<sub>3</sub>-) is a compound made up of nitrogen and oxygen. Nitrate gets into the ground water by dissolving in rain water and melting snow then leaching through the soil. A few common sources of nitrate that can impact ground water are: over applied residential and agricultural fertilizers; livestock runoff; failing septic systems; & decaying plant debris.*

Ten milligrams per liter or 10 parts per million is the advisory threshold for nitrates in drinking water.

Pregnant women and infants 6 months old and younger should never drink water contaminated with nitrates. Severe cases of nitrate contamination can cause a condition called methemoglobinemia or “blue baby syndrome”. Too much nitrate in the blood stream can cause the infant to not get enough oxygen giving them a bluish color to the skin. This is a serious medical condition and needs immediate medical attention because the condition can lead to coma and death if it is not treated promptly. Pregnant women should also avoid drinking nitrate contaminated water due to an increased risk of birth defects.

If drinking water is contaminated with nitrates, there could be an increased risk of pesticide contamination. The water should be tested for pesticides as well. If your well tests high in nitrates contact a reputable licensed well driller or pump installer for treatment options.

#### **Other Potential Contaminants**

Because ground water is part of a natural cycle. Activities that occur on the landscape or occur naturally can potentially contaminate ground water resources. Here is a list of other potential contaminants:

*Arsenic	*Copper
*Iron	*Iron Bacteria
*Lead	*Pesticides
*Radium	*Volatile Organic Chemicals (or VOCs) Examples are gasoline, oil, cleaning solvents, etc.

## For More Information About **Well Abandonment Projects**

or

## **Well Contamination**

### **Contact:**

**Fond du Lac County Land &  
Water Conservation Dept.**

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W6529 Forest Avenue  
Fond du Lac, WI 54937  
Phone: (920) 906-4680  
web address: [fdlco.wi.gov](http://fdlco.wi.gov)

## For More Information About **Water Testing**

### **Contact:**

**Fond du Lac County  
Health Department**  
3rd Floor  
City/County Government Center  
(920) 929-3085 or  
1-800-547-3640

